

Work Order ID 61448

Wednesday, August 25, 2010 10:33:17 AM



Page 1

Item ID: D206-667-203TRN

Accept



Setup Start



Revision ID:

Item Name: Crosstube Turning Detail

Stop



Start Date: 8/25/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 9/1/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: *Y*Date: *10-8-25*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr	Revision Nbr
D206-667-243	Rev C

100

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Mori Seiki CNC Lathe Large

Memo

0.00

*ark 10/08/29**1 0*

110

0.00



QC1- Inspect dimensions to dimension sheet

QC

Quality Control

Memo

0.00

*ark 10/08/29**1 0*

120

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Mori Seiki CNC Lathe Large

Memo

0.00

*ark 10/08/29**1 0*

1-Turn second side as per Folio FA089
 2-File down transition lines smooth.
 3-Remove sand and plugs
 4-Scrib part# and batch #

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130



QC

Quality Control

QC1- Inspect dimensions to dimension sheet

0.00

arh 10/08/29

0.00

140



QC

Quality Control

QC8- Inspect parts - second check

0.00

0.00

(X) D

MB 10-08-30

150



HandFXtube

Crosstubes Chemical Conversion

0.00

0.00

10-8-30

Hand Finishing Crosstubes

W/O:		WORK ORDER CHANGES					
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Customer:

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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160



QC

QC3- Inspect Part Finish

0.00

X X MB 70-08-30

Quality Control

170



Packaging

0.00

X X MB 10-08-30

Packaging

Memo

0.00

Identify and Stock in kanban rack

 Location: X-tube cel

180



QC

QC21- Final Inspection - Work Order Release

0.00

Quality Control

Memo

0.00

X X 10/08/30 J

C2108130

W/O:		WORK ORDER CHANGES					
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Picklist Print

Wednesday, August 25, 2010 10:33:22 AM

Page 1

Work Order ID: 61448



Parent Item: D206-667-203TRN



Parent Item Name: Crosstube Turning Detail

Start Date: 8/25/2010

Required Date: 9/1/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-03-06 new issue DD verified by:ec
IPP Rev B 08.04.02 Removed polish EC verified by: DD
IPP Rev C 09.01.06 ECN 08-562 EC verified by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6004-115		Manufactured	No			100	Each	62.0000	1	1			

Crosstube Material



Location	Loc Qty	Loc Code
LG	62	
34685	17	
34774	9	
38336	36	

10/08/28

W/O:		WORK ORDER CHANGES					
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DART AEROSPACE LTD

Work Order: 614148

Description: Crosstube Assembly

Part Number: D206-667-243

Inspection Dwg: D206-667-243 Rev: B

Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

 First Article Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.490	+0.005/-0.000	2.490	—	Vern	ML-7
	2.018	+0.005/-0.000	2.019	—	"	"
	2.079	+0.005/-0.000	2.084	—	"	"
	2.145	+0.005/-0.000	2.150	—	"	"
	2.209	+0.005/-0.000	2.214	—	"	"
	2.287	+0.005/-0.000	2.292	—	"	"
	2.363	+0.005/-0.000	2.368	✓	"	"
	2.433	+0.005/-0.000	2.438	—	"	"
	0.200	+/-0.010	.200	—	"	"
	0.500 x 30°	+/-0.010	.500x30°	—	"	"
	R0.063	+/-0.010	R.063	—	R-G	N/A
	R0.500	+/-0.010	R.500	—	R-G	N/A
	4.438	+/-0.030	4.440	—	Vern	ML-7
	104.91	+/-0.020	104.920	—	M-tape	ML-2
	2.490	+0.005/-0.000	2.490	—	Vern	ML-7
SIDE B	2.018	+0.005/-0.000	2.020	—	"	"
	2.079	+0.005/-0.000	2.084	—	"	"
	2.145	+0.005/-0.000	2.150	—	"	"
	2.209	+0.005/-0.000	2.214	—	"	"
	2.287	+0.005/-0.000	2.292	—	"	"
	2.363	+0.005/-0.000	2.368	—	"	"
	2.433	+0.005/-0.000	2.438	—	"	"
	0.200	+/-0.010	.200	—	"	"
	0.500 x 30°	+/-0.010	.500x30°	—	"	"
	R0.063	+/-0.010	R.063	—	R-G	N/A
	R0.500	+/-0.010	R.500	—	R-G	N/A
	4.438	+/-0.030	4.440	—	Vern	ML-7

Measured by: *Amf*
 Date: 10/08/29

Audited by: MP
 Date: 10-08-30

Prototype Approval: N/A
 Date: N/A

Rev	Date	Change	Revised by	Approved
A	06.09.01	New Issue (P/O D206-667-203)	KJ/JLM <i>Amf</i>	<i>Amf</i>

W/O:		WORK ORDER CHANGES					
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8 7 6 5 4 3 2 1

Item	Qty	Part Number	Description
1	X	D206-667-243	CROSSTUBE ASSEMBLY (206L HIGH AFT)
2	1	D6004-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2892-1	SUPPORT
6	4	D3595-063-450	RUBBER CUSHION
7	4	MS21920-22	CLAMP
8	14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6004-115
FINISHED LENGTH = 104.91±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-243" AND BATCH NUMBER ON
INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 21.9 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY,
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER
QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE
D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE
LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT, N/A
WITHOUT NOTICE
WORK ORDER
NO. *614418*

BF10-8-25

RELEASED
08/11/2006

C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-450 WAS D2858-400-773 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCES (ZN 4-3, C5-3, D3-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION		
DESIGN	90	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO. D206-667-243	
CHECKED	10	REV. C	SHEET 1 OF 4
MFG. APPR.	EP	TITLE CROSSTUBE ASSY (206L HIGH AFT) NTS	
APPROVED	EP	SCALE	
DE APPR.	EP	DATE 08.11.06	
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8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

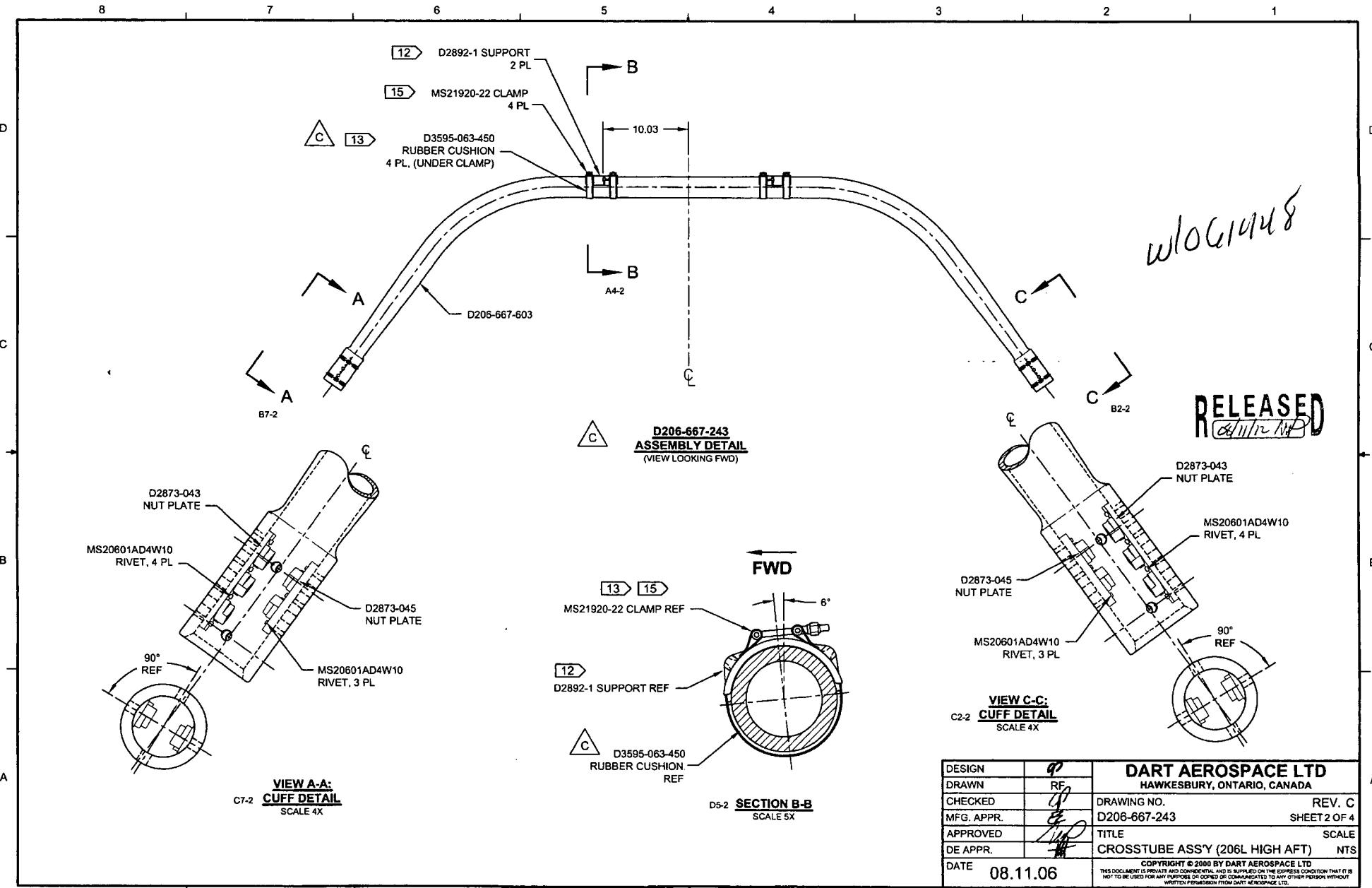
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DESIGN	97	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	10	DRAWING NO.	REV. C
MFG. APPR.	33	D206-667-243	SHEET 2 OF 4
APPROVED	14/0	TITLE	SCALE
DE APPR.	14/0	CROSSTUBE ASSY (206L HIGH AFT) NTS	
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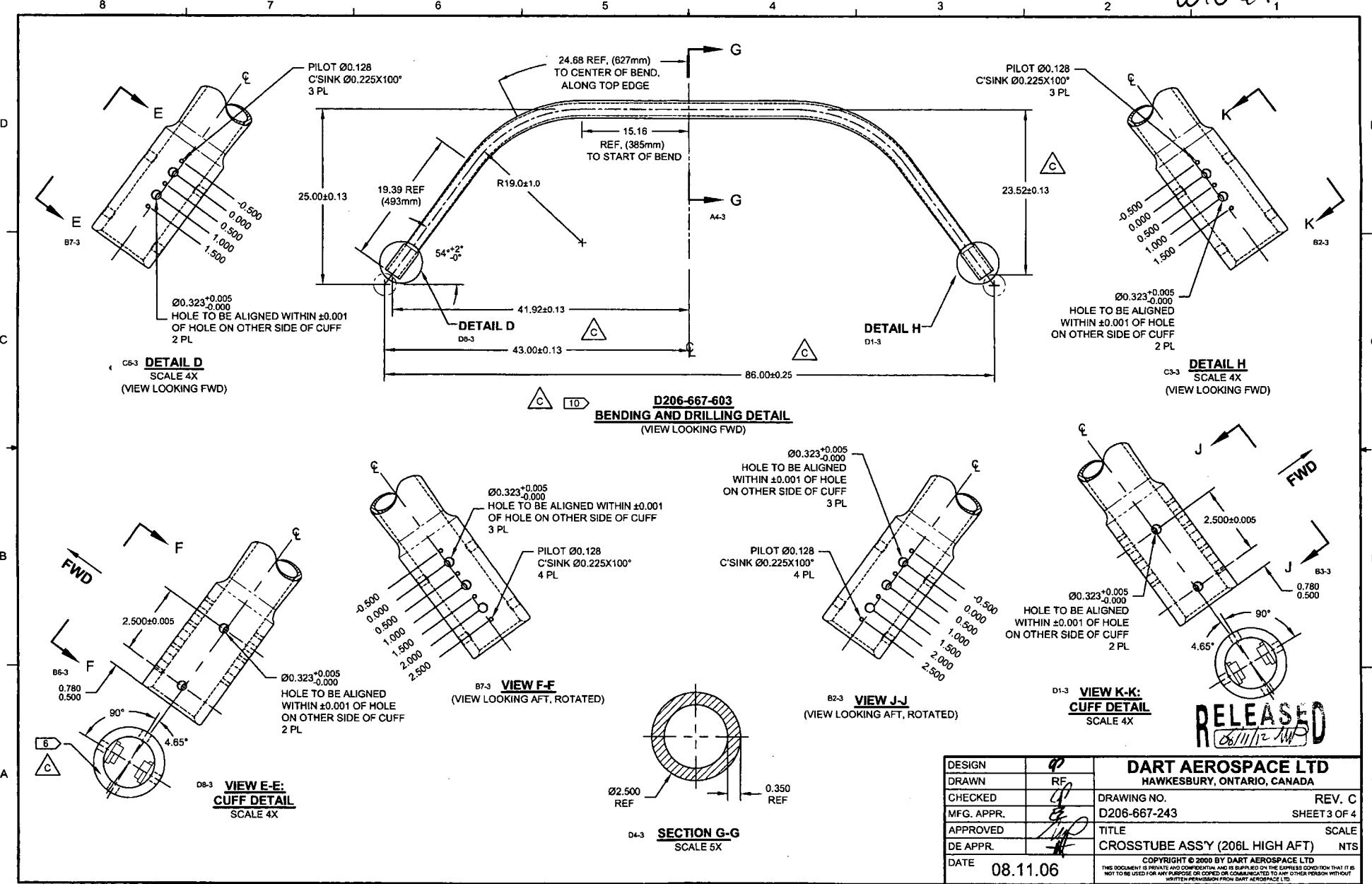
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W061448



DESIGN	<i>9</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>10</i>		
MFG. APPR.	<i>E</i>	DRAWING NO.	REV. C
APPROVED	<i>10</i>	206-667-243	SHEET 3 OF 4
DE APPR.	<i>10</i>	TITLE	SCALE
DATE	08.11.06	CROSSTUBE ASSY' (206L HIGH AFT) NTS	

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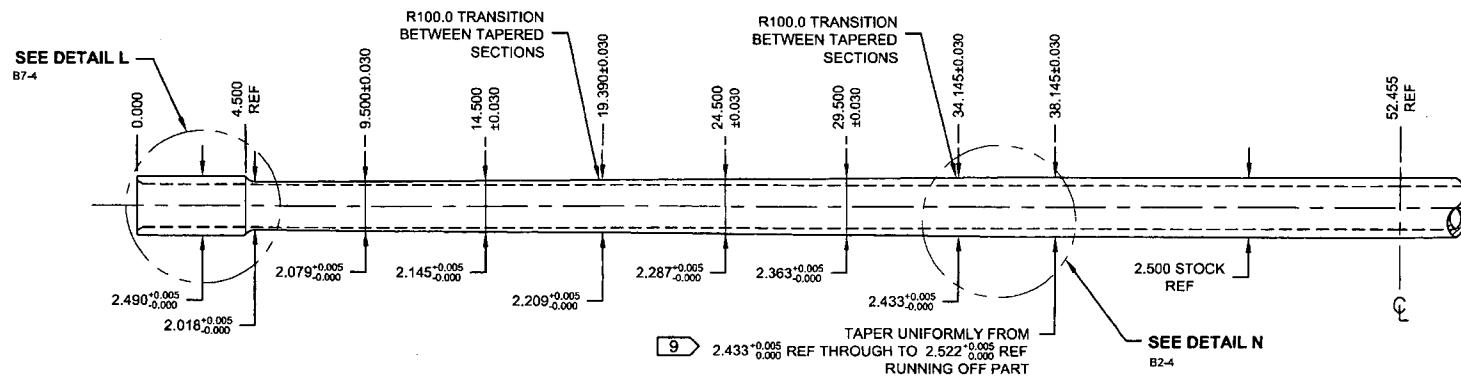
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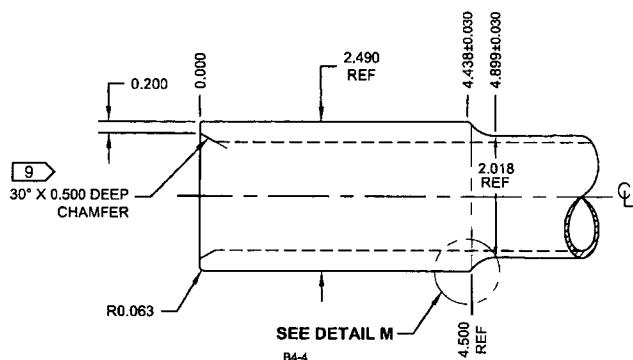
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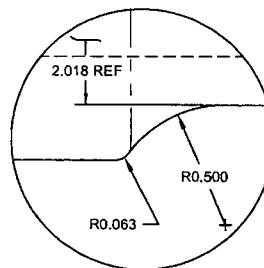
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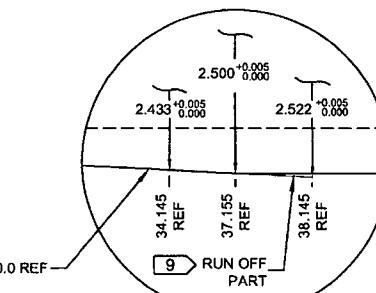
WB 61448



C7-4 **DETAIL L: CROSSTUBE CUFF**
NOT TO SCALE



DETAIL M:
B6-4 CUFF TRANSITION
NOT TO SCALE



DETAIL N:
C4-4 TAPER RUN-OFF
NOT TO SCALE

E RELEASED
08/11/12 JMW

DESIGN	90	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	91	DRAWING NO. D206-667-243	REV. C
MFG. APPR.	EG		SHEET 4 OF 4
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